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U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
CALIFORNIA FOREST AND RANGE EXPERIMENT STATION
Division of Forest Insect Research

FOREST INSECT CONDITIONS
Miami Creek, Lewis Creek and Big Creek Drainage
Sierra National Forest
May 1954
APPRAISAL SURVEY

An appraisal survey was made of the Miami Creek, Lewis Creek and Big Creek Drainage on the Sierra National Forest on May 14, by G. L. Downing and R. H. Cope of the Division of Forest Insect Research, California Forest and Range Experiment Station. This is the area where control of the mountain pine beetle was conducted in 1952 and 1953. A reconnaissance late last fall indicated that the infestation had subsided. The appraisal this spring was made to determine the present level of loss and to provide a basis for evaluating the effectiveness of control.

Status of the 1953 Infestation

The 1953 infestation is characterized by light epidemic loss in sugar pine caused by the mountain pine beetle. Evidence of grouping tendencies is now almost lacking and such loss as occurs is largely restricted to single infested trees.

From the data collected in 123 ½-acre sample plots cruised, it is estimated that a total of about 115 trees on 1480 acres were infested in 1953. The data are subject to a sampling error of about 65% at the 68% confidence level, which means that the expected minimum number of trees would be 40 and that the expected maximum number would be 190. This compares with a total of 836 trees on approximately the same area which were infested in 1952 and treated during the spring of 1953.

Results of Control

During the early spring of 1952, a cooperative program of control was carried on against the 1951 overwintering broods of the mountain pine beetle. A total of 2050 infested trees on 1405 acres of mixed ownership were treated. In the fall of 1952, the number of infested trees was 836. This amounts to a reduction of about 60 per cent as compared to the previous year's infestation. The control last season of the 836 trees has now resulted in an endemic infestation of about 115 trees, or a reduction of about 86 per cent, presumably brought about as the result of control action.

Accuracy of the 1952 Estimate

The estimate of the number of infested trees for the 1952 season, based on the use of small circular sample plots, proved to be quite reliable as may be seen from the following table:

Table 1

Estimated Versus Actual Number of Infested Trees by Ownership

Ownership	Estimated No. Trees	Actual Number Treated	Difference (Per cent)
Private	520	497	4.4 +
Federal	396	339	16.8 +
All	916	836	8.7

Recommendation:

In view of the low loss in this area at the present time, no further control work is recommended. However, the area should be closely watched annually for further developments.

Berkeley, California
July 21, 1954

Ralph C. Hall
Entomologist